

**Remarks by
Vice Chair James D. Boyd
California Energy Commission
to the
California Cogeneration Council Annual Meeting
Napa, California**

I've been asked to speak with you today about relevant state policies and issues affecting cogeneration as a source of cost-effective electricity generation and thermal energy. Cogeneration, or combined heat and power (CHP), has been a subject of intense personal interest to me during my tenure on the California Energy Commission.

The Energy Commission has long recognized the benefits of cogeneration as a low-cost, low-emission option for the efficient use of natural gas. In our *2003 Integrated Energy Policy Report*, the Commission identified cogeneration as a major element in meeting the state's energy needs, citing the over 6,300 megawatts of electricity generation in operation at that time. Today, more than 9,000 megawatts of CHP has been installed at more than 900 sites throughout California.

Specifically, we concluded that by creating two forms of energy from a single fuel source (for example, natural gas), cogeneration plants can achieve heat rates that "match or exceed the heat rates of new gas-fired combined-cycle power plants." Efficient combined heat and power technology uses less fuel and produces less carbon than almost any other type of fossil-fueled generation. For these reasons, we are advocating the use of cogeneration as an efficient, lower polluting source of energy for our state.

Cogeneration is also recognized for its power reliability and power quality benefits. As a form of on-site generation, it

reduces grid congestion and avoids distribution costs of power purchased from the electricity grid. Higher efficiency also translates to lower operating costs. For these reasons, schools, hospitals, universities and industrial processes, which require both power and heat, often prefer the CHP option for supplying their energy. However, I recognize that this has not been an easy path.

By using natural gas more efficiently, cogeneration also takes some of the pressure off California's growing natural gas demand. The Commission is forecasting that natural gas demand in the electricity sector alone will grow annually at a rate of 2.4 percent per year over the next decade.

U. S. natural gas growth in electricity approaches 5.6 percent. Other parts of the country are shifting away from coal-based electricity to natural-gas based electricity. At the same time, the U. S. supply of natural gas has remained flat for the past several years.

Diversifying sources of natural gas supplies will also put downward pressure on price. California continues to rely largely on imported natural gas from Canada, the Rocky Mountains, and the U. S. Southwest region. As a state, California imports roughly 85 percent of its supplies, producing only 15 percent within the state.

The importation of Liquefied Natural Gas (LNG) from Mexico into the San Diego region will begin in early 2008, when the Costa Azul LNG facility in Baja California begins operating. How much LNG will actually be imported into California remains an important question.

In today's political and regulatory environment, cogeneration has the added benefit of producing cost-effective

greenhouse gas reduction benefits. As a highly efficient energy option, cogeneration can reduce emissions of carbon dioxide, oxides of nitrogen, and sulfur dioxide, simply because of its inherent higher conversion efficiencies.

The Climate Action Team, on which I serve, identified CHP as capable of meeting 2.7 percent of the state's GHG reduction targets for the year 2020, or 5 million metric tons of carbon dioxide equivalent reductions.

California state policies support the use of cogeneration in California. California's Energy Action Plan, which was jointly adopted by the Energy Commission and the California Public Utilities Commission (CPUC), established a preferred "loading order" to guide energy policy decisions and actions by utilities to satisfy California's growing demand. Top priorities in the "loading order" for electricity are:

- Increasing energy efficiency and demand response
- Meeting new generation needs first with renewable energy sources and second with distributed generation resources.

Cogeneration is one form of distributed generation, which supports these state policy preferences. Furthermore, in our *2005 Integrated Energy Policy Report*, the Energy Commission identified CHP as the most cost-effective form of distributed generation. In doing so, the Commission established a realistic goal of adding 5,400 megawatts of CHP by the year 2020. Much work still needs to be done to achieve this goal, by addressing regulatory and market uncertainties. We continue to need your help and investment here.

We also recommended the adoption of a consistent set of state policies, which would require joint action by the Energy Commission and the CPUC, including:

- Establishing annual utility procurement targets for CHP;
- Requiring investor-owned utilities to purchase electricity from CHP facilities at prevailing wholesale prices;
- Exploring regulatory incentives that reward utilities for promoting customer and utility-owned CHP projects; and
- Requiring that investor-owned utilities provide scheduling services for CHP facilities through the California Independent System Operation (ISO) and allowing utilities to receive compensation for such serviced.

Looking ahead, the Energy Commission will continue to support cogeneration and CHP as part of the portfolio of energy supply options. In our *2007 Integrated Energy Policy Report*, we are recommending a three-part strategy which allows CHP to compete for its share of the energy market:

- Support near-term market incentives, such as tax credits, self-generation incentives, low-interest loans, and production tax credits.
- Transition to new market mechanisms, which promote development of CHP through utility incentives, net metering, favorable rate structures, interconnection standards, and access to emerging emissions markets.

- Reducing regulatory and institutional barriers, in order to promote CHP through a combination of standards and incentives, which allow CHP to more favorably compete with central generation facilities.

While the 2007 IEPR is not yet adopted by the Energy Commission, our Staff is recommending a number of specific actions as part of a “road map” for cogeneration, which will require actions by the CPUC. For example, Staff is proposing a number of recommendations:

- Self-generation incentives should be based on overall efficiency and system performance, regardless of fuel type (restating the importance of CHP);
- A tariff structure should be establishing, which makes distributed generation projects, such as CHP, “cost and revenue” neutral. Such a tariff would give cogeneration owners a “credit” for system benefits;
- Elimination of the “non-bypassable” surcharge and standby reservation charges for DG, which would remove a significant disincentive for CHP projects;
- Streamlining CPUC Rule 21, which affects utility interconnection standards, in order to provide third party resolution of interconnections issues;
- Developing a portfolio standard for electric utility procurement of DG, which would allow CHP projects to be treated similar to efficiency programs; and
- Giving CHP “equal footing” with bulk power purchases by urging the CPUC to adopt a revenue neutral program for highly efficiency CHP.

In closing, cogeneration and CHP will remain valuable resource options for California. CHP offers efficiency and greenhouse gas reduction benefits by producing two forms of energy—electricity and useful heat---from a single fuel source.

Thank you.